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PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional): Riazi 3-11-3

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)]

on April 3, 2006

Signature: Bobbette A. Blake

Typed or printed name: Bobbette A. Blake

Application Number	Filed
09/398,502	9/17/1999

First Named Inventor: Riazi et al.

Art Unit	Examiner
2663	Duc T. Duong

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).
Note: No more than five (5) pages may be provided.

I am the

- ☐ applicant/inventor.
- ☐ assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)
- ☒ attorney or agent of record. Registration number 36,597.
- ☐ attorney or agent acting under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34 _____

Kevin M. Mason
Signature

Kevin M. Mason
Typed or printed name

203-255-6560
Telephone number

April 3, 2006
Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☐ *Total of _____ forms are submitted.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT APPLICATION

Applicant(s): Riazi et al.
Docket No.: 3-11-3
Serial No.: 09/398,502
Filing Date: September 17, 1999
Group: 2663
Examiner: Duc T. Duong

I hereby certify that this paper is being deposited on this date with the U.S. Postal Service as first class mail addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450

Signature: Bobbette Black Date: April 3, 2006

Title: Method and Apparatus for Performing Differential Modulation over Frequency in an Orthogonal Frequency Division Multiplexing (OFDM) Communication System

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REMARKS FOR PRE-APPEAL BRIEF REQUEST FOR REVIEW

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the outstanding Office Action, dated November 1, 2005, Applicants submit the following remarks.

REMARKS

The present application was filed on September 17, 1999 with claims 1 through 22. Claims 1 through 22 are presently pending in the above-identified patent application.

In the final Office Action, the Examiner rejected claims 1-22 under 35 U.S.C. §102(e) as being anticipated by Sayeed (United States Patent Number 6,594,320 B1). In the final Office Action and the Advisory Action, the Examiner asserts that a "spectral null" as disclosed by Sayeed '320 is a pilot tone as required by the independent claims of the present invention.

A Spectral Null Is Not A Pilot Tone

Regarding independent claims 1 and 7, for example, the Examiner asserts that Sayeed

discloses storing said differentially encoded symbols and one or more pilot tones to produce an analog signal centered at a desired carrier frequency (FIGS. 4A-C; col. 4, lines 36-60).

In the Response to Arguments section of the final Office Action, the Examiner addressed Applicant's prior argument that Sayeed fails to teach storing pilot tones. The Examiner asserts, however, that in FIG. 4A, and col. 4, lines 38-42, discloses "storing a spectral null (pilot tone) with a zero complex value in the location 400 of the buffer 140."

A spectral null is not a pilot tone. As understood by a person of ordinary skill in the art, a "tone" is a sinusoid of a particular frequency. See also, for example, www.wikipedia.org, where it is noted that a "pilot" is a signal, usually a single frequency, transmitted over a communications system. Thus, a pilot tone is a signal that conveys information. A "spectral null," on the other hand, is not a signal at all. A "spectral null" occurs when *nothing* is transmitted. While a "pilot tone" is a signal that conveys information, a "spectral null" is the lack of a signal. Thus, Applicant submits that a person of ordinary skill in the art would not interpret the "spectral null" described by Sayeed '320 in the manner suggested by the Examiner.

The Examiner has also referred to page 9, lines 23-26 of the present specification, where it is noted that:

> The buffering of the 1024X*Factor* long buffer is designed to accommodate 978 sub-carriers (1022 in TII Mode), *such that the 0th location of the buffer will contain the nulled sub-carrier (required for acquisition purposes)* and then the next 489 samples will occupy the next consecutive locations. The last 489 locations of the buffer is filled with the latter half of the incoming 978 samples. The rest of the buffer is filled with zero's at block 250. (emphasis added).

This passage is again directed to the *spectral null*, which both the present specification and Sayeed '320 note is used for acquisition. It is completely unclear to Applicant how a discussion of a "nulled sub-carrier" at the "0th location" supports a finding by the Examiner that a spectral null is a pilot tone. Applicant asserts that the terminology employed on page 9 in the above cited passage merely supports the position that a "spectral null" occurs when *nothing* is transmitted. In any event, contrary to the Examiner's assertion, Applicant has not defined the term "pilot tone" in the specification at page 9, lines 23-26.

An analysis of the present specification supports the clear distinction between "pilot tones," as used by the claims of the present invention, and "spectral null," as used by Sayeed '320. Contrast, for example, the discussion of "pilot tones" on page 8, lines 18-19 ("The values 1/sqrt(2) and 1/sqrt(2) are to be **pilot tones** at the beginning k=-489 and the middle (k=1) of the spectrum"), from the discussion on page 9, lines 1-2 ("As shown in FIG. 2, block 250 fills **unused (inactive) carriers with zeroes** (in a normal mode) or with transmitter identifier information (TII) (in a TII mode)"). (emphasis added). Thus, the present specification clearly avoids using the term "pilot tone" in connection with the 0^{th} location.

In the Advisory Action, the Examiner asserts that the concept of a "tone" with respect to a sinusoid of a particular frequency is not supported by the original specification and constitutes new matter. To the contrary, however, such a well accepted definition by those of ordinary skill in the art cannot be considered new matter.

Applicants thus reassert that Sayeed does ***not*** address the issue of *storing pilot tones*. As previously asserted, FIG. 4A does not indicate the existence of pilot tones, which a person of ordinary skill in the art would expect to be indicated at the start of the 1^{st} set of Na/2 sub-carriers 410 and at the start of the 2^{nd} set of Na/2 sub-carriers 430. This point was ***not addressed*** by the Examiner in the Advisory Action. In addition, Applicants could find no disclosure or suggestion of *pilot tones* or of *storing pilot tones* in the text cited by the Examiner.

Independent claims 1, 7, 13, and 18 require storing said differentially encoded symbols and ***one or more pilot tones*** to produce an analog signal centered at a desired carrier frequency. In conclusion, Applicant submits that the Examiner's use of the term "spectral null" is completely unsupported by the present specification, Sayeed '320, or the common usage of the term by those of ordinary skill in the art.

Thus, Sayeed does not disclose or suggest storing said differentially encoded symbols and one or more pilot tones to produce an analog signal centered at a desired carrier frequency, as required by independent claims 1, 7, 13, and 18.

Dependent Claims 2-6, 8-12, 14-17, and 19-22

Dependent claims 2-6, 8-12, 14-17, and 19-22 were rejected under 35 U.S.C. §102(e)

as being anticipated by Sayeed.

Claims 2-6, 8-12, 14-17, and 19-22 are dependent on claims 1, 7, 13, and 18, and are therefore patentably distinguished over Sayeed because of their dependency from independent claims 1, 7, 13, and 18 for the reasons set forth above, as well as other elements these claims add in combination to their base claim.

All of the pending claims, i.e., claims 1 through 22, are in condition for allowance and such favorable action is earnestly solicited.

If any outstanding issues remain, or if the Examiner or Pre-Appeal committee has any further suggestions for expediting allowance of this application, they are invited to contact the undersigned at the telephone number indicated below.

Your attention to this matter is appreciated.

Respectfully submitted,

Date: April 3, 2006

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